First draft, May 17, 2004.

Professor Theodore A. Postol
postol@mit.edu

Dear Professor Postal,

Recently Leonard Minsky, David Noble, and Ralph Nader gave lectures at a conference entitled "The Scholar and the State" organized by our graduate student union. Mr. Nader talked of your work and the conference generated much enthusiasm for public debate and discussion. As one consequence, some of us initiated a lecture series entitled Alternative Voices Series (AVS) and we would be honoured if you could be our first AVS public speaker of the coming academic term, on October 1 (preferred), 8, 15, 22, or 29.

We are certain that your work in exposing fundamental problems with the current US National Missile Defence System would generate much interest in Canada's capital, both on the public side, with our Members of Parliament (MPs), and in our physics community (the Canadian Association of Physicists executive has recently taken a critical position regarding Canada's involvement in such a missile defence program).

The best would be to combine a Friday public lecture with a Thursday Physics Seminar, if you would agree to give two talks. We would also expect media interviews and possibly some interest from individual MPs. I personally feel rather strongly that such precarious technological proposals are not solutions for increased safety for our nations and I am convinced that your visit would contribute immensely to the needed public debate on this issue.

We very much hope that you can accept our invitation, or can propose alternative dates. Attached, please find a mission/defining statement for our AVS project.

Sincerely,

DGR
(Professor of Physics, co-Chair of AVS)

Subject: invitation to Ottawa, your phone message
From: Denis Rancourt <dgr@physics.uottawa.ca>
Date: Mon, 24 May 2004 17:32:19 -0400
To: Theodore Postol <postol@mit.edu>
CC: Marc Spooner <spoonman@magma.ca>, Tanya Shaw <tshaw018@uottawa.ca>, Evan Thornton <evan@magma.ca>, Shoshanah Jacobs <sjaco096@uottawa.ca>

Dear Dr. Postol,

I just received your voice mail and I also responded by voice mail (I must have just missed you). Today is a civic holiday in Canada.

I am very pleased that you will be able to accept our invitation.

We had two talks in mind (if that is acceptable to you?):

Thursday, September 30, 2004, 2:30 pm,
Physics Seminar (All science departments invited)
"Technical and policy aspects..."

set!

Friday, October 1, 2004, 7 pm,
Public Lecture (All welcome, press, MPs,...)
"Policy and technical aspects..."

There could be much overlap between these talks because we expect different audiences. The first can be more scientific.

The best is if we could set definitive dates as soon as possible, to give us plenty of time to prepare. We would of course cover your (economy flight) travel and expenses in Ottawa. When we have your travel schedule, we can arrange your on-site schedule.

We are quite enthusiastic about the prospect of your visit and look forward to firming up the schedule. Feel free to call me at home also (613-237-9600).

Sincerely,

Denis G. Rancourt
(Professor of Physics, co-Chair of AVS)

Department of Physics
University of Ottawa
Ottawa, Ontario

Subject: Physics Seminar, Star Wars madness
From: Denis Rancourt <dgr@physics.uottawa.ca>
Date: Wed, 02 Jun 2004 16:21:29 -0400
To: "Physics Professors (APUO)" <phyprofs@science.uottawa.ca>, Physics Grads <phygrads@science.uottawa.ca>
CC: Murielle Brazeau <murielle@science.uottawa.ca>, Physics Chair <phychair@science.uottawa.ca>
BCC: Marc Spooner <spoonman@magma.ca>, Tanya Shaw <tshaw018@uottawa.ca>, Evan Thornton <evan@magma.ca>, Shoshanah Jacobs <sjaco096@uottawa.ca>

Dear colleagues and graduate students,

I have just booked Theodore Postol (Physics Professor, MIT) to give the Thursday Physics Seminar on September 30, and a public lecture on the evening of October 1, 2004. See below: He is the guy who blew the whistle on the fact that the Patriot Missile Defense System does not work! He is also possibly the best qualified critic of Bush and Martin's Star Wars plans.

I hope that the CAP can join in to co-sponsor these events and that Carleton and the OCIP will also be able to participate. (I also hope that maybe a majority of Ottawa physicists might sign a joint memorandum on the same occasion...?)

We plan to invite MPs, have press releases, etc. Please let me know if you would like to help.

see:

http://web.mit.edu/sts/faculty/info/Postol_Theodore-css.html

http://www.commondreams.org/views/051100-101.htm

http://sass.caltech.edu/events/postol.shtml

DGR
PS: I will be away June 3-14, 2004.

August 16, 2004

Marc Spooner
Co-Chair, Alternative Voices Series (AVS)
Part-time Professor,
Faculty of Education
University of Ottawa
MarcSpooner@magma.ca

Hon. Alexa McDonough, M.P.
House of Commons
Ottawa, ON
Canada
K1A 0A6
mcdonough.a@parl.gc.ca

RE: Invitation to participate in a news conference and lecture to be given at the University of Ottawa by Theodore Postol, MIT professor and leading independent expert critic of missile defence systems.

Dear Alexa:

It is with great honour and hope for our future that we invite you to participate in an important news conference and lecture to be given by Theodore Postol, MIT professor and leading independent expert critic of missile defence systems, scheduled for Friday, October 1, 2004 at the University of Ottawa.

Professor Postol's lecture entitled *"National Missile Defense and the Civic Responsibilities of Technical and Policy Experts"* will be sure to generate national media coverage and, with your participation, it represents a golden opportunity to gain the widespread attention of members of parliament and the Canadian public in general. In fact, we are expecting that CPAC will be broadcasting the lecture as they have done with other events we have organized.

As foreign affairs critic you have been instrumental in opposing the weaponization of space, and your participation in this event has the real prospect of shaping the future of this debate and swaying the public's opinion against this ill-conceived plan. It is by design that Dr. Postol's visit is timed to coincide with the fall session of parliament; we must hold the Liberals accountable to their pledge of openness and transparency and we must inform the public of the folly of this plan.

It would be ideal if you could participate in the media session and, better still, if you could also introduce Dr. Postol the evening of his lecture (there will be media at both events). The media session is being planned for 1:30pm and the lecture is scheduled for 7pm, Friday, October 1st, 2004, University of Ottawa downtown campus.

We realize that these events may conflict with your national meeting in Vancouver; however, as foreign affairs critic and vocal opponent of the SDI plan we hope you will agree that this historic opportunity is too important to pass up.

I am looking forward to further discussing your participation. Feel free to contact me by email or by telephone at (613) 293-7191 at your earliest convenience.

Respectfully,

Marc Spooner,
On behalf of AVS and
many academics and other concerned members of the public

August 26, 2004

Re: Invitation to meet leading expert on missile defence technology and related security implications, Professor Theodore Postol, MIT.

Dear Member of Parliament,

Dr. Theodore Postol is a professor of physics at MIT and probably the leading independent missile defence technology expert and researcher. He has authored and co-authored many reports and studies on missile defence, since the Star Wars plan of the Reagan administration and up to Patriot missile use in the Gulf wars, has won several awards, and has been amply interviewed in the television and radio media, including several appearances on CBC television. In addition, Dr. Postol is an excellent communicator and is known for non-partisan straight talk (a resume is attached).

Dr. Postol will give a public lecture in Ottawa, entitled "National missile defense and the civic responsibilities of technical and policy experts", on October 1, 2004, at the Alumni Auditorium, University Centre, University of Ottawa. The talk will be a broad overview of missile defence systems, present and future, and their implications regarding an increase or reduction of security. This lecture and related events are co-sponsored by several university departments, OPIRG, and the Alternative Voices Series.

You and your staff are cordially invited to attend the public lecture. Please confirm to reserve your place (preferably by e-mail to both of us). In addition, Dr. Postol would be happy to meet you, in any format such as a private meeting or round table, to provide general information on the analyses performed by him and his colleagues of the Technical Working Group, Security Studies Program, MIT (http://web.mit.edu/ssp/twg/). At this time, it appears that Dr. Postol will be in Ottawa from September 30 to October 2.

We hope we can count on your participation at the public lecture and we invite any suggestions you may have concerning more in-depth meetings.

Sincerely,

Denis Rancourt
Professor of Physics
Co-chair, Alternative Voices Series
tel. 613-562-5800 ext.6774; dgr@physics.uottawa.ca

Marc Spooner
Part-time Professor of Education
Co-chair, Alternative Voices Series
tel. 613-293-7191 (cell); spoonman@magma.ca

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HOUSE OF COMMONS
CHAMBRE DES COMMUNES

Brian Masse
MP / Député
Windsor West

Windsor
Plaza 300
300 Tecumseh Road East
Suite 336
Windsor ON N8X 5E8
Tel.: (519) 255-1631
Fax: (519) 255-7913

September 23, 2004

Denis Rancourt
Faculty of Science, Physics
University of Ottawa
150 Louis Pasteur Street
Ottawa, Ontario
K1N 6N5

RE: Invitation to meet leading expert on missile defense technology and related security implications, Professor Theodore Postol, MIT.

Dear Dr. Denis Rancourt,

I am writing to inform you that unfortunately Brian Masse MP will not be able to attend the lectures on October 1, 2004 by Dr. Postol as he will be out of town for these events. He looks forward to working with you, your department, and University in any future events that may concern his critic areas including: Industry, Science and Technology, Auto Policy, Canada Border Services, and Customs. Thank you again for the invitation.

Regards,

M. Namespetra

Melanie Namespetra
Parliamentary Assistant to Brian Masse MP
Rm.701 Justice Building, House of Commons
p.613-996-1541
f.613-992-5397

Université d'Ottawa
University of Ottawa

Ottawa-Carleton Institute for Physics
L'Institut de physique d'Ottawa-Carleton

Carleton University

Ottawa-Carleton Institute of Physics

Speaker:

Professor Theodore Postol
Science, Technology, and National Security Policy Program
Massachusetts Institute of Technology, USA

Title:

The Science and Technology of the Bush National Missile Defense

Date: September 30, 2004
Time: 2:30 pm
Place: MCD 121

Dr. Postol is the leading independent ballistic missile defence (BMD) technology expert and researcher.

Dr. Postol will also present a public lecture entitled "National Missile Defense and the Civic Responsibilities of Technical and Policy Experts", Alumni Auditorium, University Centre, University of Ottawa, 7 pm, Friday, October 1, 2004, free admission, all welcome.

Local contact: Denis G. Rancourt, dgr@physics.uottawa.ca

- Department of Physics, Carleton University, Ottawa, Ontario, Canada K1S 5B6 Tel: (613) 520-4377 Fax: (613) 520-4061
- Departement de physique, Université d'Ottawa/Department of Physics, University of Ottawa, 150 Louis Pasteur, Ottawa, Ontario, Canada K1N 6N5 Tel: (613) 562-5757 Fax: (613) 562-5190

Long Biographical Notes on Theodore A. Postol

Theodore A. Postol is Professor of Science, Technology, and National Security Policy at the Massachusetts Institute of Technology (MIT). During the periods prior to taking his position at MIT he worked as a research physicist at the Argonne National Laboratory, an analyst studying the MX missile at the Congressional Office of Technology Assessment, at the Pentagon as an advisor on matters of military technology and policy to the Chief of Naval Operations, and as a Senior Research Associate at Stanford University's Center for International Security and Arms Control.

During the period 1982 to 1984 when Dr. Postol worked at the Pentagon he acted as the principal advisor to the Chief of Naval Operations on ICBM/SLBM vulnerability, including the Air Force's Closely Spaced Based (CSB) MX deployment, the strategic applications of Navy and Air Force nuclear weapons systems, Soviet and U.S. ballistic missile defense systems, strategic anti-submarine warfare, strategic command, control and communications, and advanced sensor technologies. His work on missile defense questions included Navy requirements for reentry systems, penetration aids, and analysis of SLBM tactical and technical countermeasures to missile defenses. His duties also involved regular participation and/or reviews of activities within The Joint Chiefs of Staff, The Strategic Systems Projects Office, The Defense Nuclear Agency, and The Strategic Submarine Division in the Office of the Chief of Naval Operations.

His scholarly work includes technical and policy analyses of strategic and tactical missile defenses, the potential effects of superfires from nuclear attacks near urban areas, the possible civilian casualties from nuclear counterforce attacks, nuclear weapons targeting practices, policy and technical questions associated with the possibility of a Nuclear Winter induced by fires following nuclear attacks, Accidental Launch Protection Systems, and Soviet tactical missile threats to NATO.

Dr. Postol has also done extensive technical work on the question of the Patriot anti-missile system's performance during the 1991 Gulf War and technical and policy work on the implications of Highly Advanced Theater Missile Defense Systems for the ABM Treaty. His analysis of the performance of the Patriot system during the 1991 Gulf War is the only detailed and refereed technical assessment of Patriot's performance during the Gulf War -- exploiting the most extensive body of technical data available to anyone on Patriot's Gulf War performance, video data taken by the press during Patriot-Scud engagements. The Congressional investigation of Department of Defense claims about Patriot's Gulf War performance revealed a near complete failure to instrument Patriots fire units during the Gulf War, and also the failure to exploit the rich and detailed information available in the public video record.

In 1990 Dr. Postol received the American Physical Society's Leo Szilard Award for "incisive technical analysis of national security issues that [have] been vital for informing the public policy debate..." He is also the recipient of the 1995 Hilliard Roderick Prize in Science, Arms Control, and International Security from the American Association for the Advancement of Science (AAAS) for "outstanding contributions that advance our understanding of issues related to arms control and international security ... that have important scientific or

technical dimensions." During the award presentation by the AAAS he was described as "by-far the strongest, technically-trained, independent arms control analyst of his generation." He was also cited for work that "has become well known and highly valued for its rigor, honesty, and attention to detail," and for having been "a key player in educating a whole generation of independent arms control policy analysts." The AAAS also noted that he "has repeatedly presented accurate, but at times, unpopular analysis to the international security and arms control community." In 2001 he received the Nobert Wiener Award from Computer Professionals for Social Responsibility for uncovering numerous and important false claims about missile defenses. In 2003 he received the Joe A. Callaway Award for Civic Courage for his work as an educator, scientist, and whistleblower. The Award cited him as "a relentless voice for truth ... [who] marshals ... considerable knowledge ... to confront the government's failures ... [in] thinking ... about national security."

Short Biographical Notes on Theodore A. Postol

THEODORE A. POSTOL is Professor of Science, Technology and National Security Policy in the Program in Science, Technology, and Society at MIT. He did his undergraduate work in Physics and his graduate work in Nuclear Engineering at the Massachusetts Institute of Technology. After receiving his PhD, Dr. Postol joined the staff of Argonne National Laboratory, where he studied the microscopic dynamics and structure of liquids and disordered solids using neutron, x-ray and light scattering, along with computer molecular dynamics techniques. Subsequently he went to the Congressional Office of Technology Assessment to study methods of basing the MX Missile, and later worked as a scientific adviser to the Chief of Naval Operations. After leaving the Pentagon, Dr. Postol helped to build a program at Stanford University to train mid-career scientists to study developments in weapons technology of relevance to defense and arms control policy. In 1990 Dr. Postol was awarded the Leo Szilard Prize from the American Physical Society. In 1995, he received the Hilliard Roderick Prize from the American Association for the Advancement of Science. In 2001 he received the Norbert Wiener Award from Computer Professionals for Social Responsibility for uncovering numerous and important false claims about missile defenses and the 2003 Joe A. Callaway Award for Civic Courage for his work as an educator, scientist, and whistleblower.

THEODORE A. POSTOL
Center for International Studies
Massachusetts Institute of Technology

292 Main Street (617)
Cambridge, Massachusetts 02142

253-8077 (work)
(617) 576-2830 (home)

EXPERIENCE

1989 to present — Professor of Science, Technology, and National Security Policy
Security Studies Program
and
Program in Science, Technology, and Society
Massachusetts Institute of Technology

1985-1989 — Senior Research Associate

1984-1985 — Science Fellow
Institute for Internationa Studies at Stanford
320 Galvez Street
Stanford University
Stanford, California 94305-6165

Performed research and lectured on scientific and technical questions relevant to national security policy and planning. Helped manage a research and training program for mid-career scientists on the technical aspects of national security policy.

1982-1984 — Assistant for Weapons Technology
Office of the Chief of Naval Operations
Strategic and Theater Nuclear Warfare Division
The Pentagon
Washington, D.C. 20350

Acted as the principal advisor to the Chief of Naval Operations on ICBM/SLBM vulnerability, including the Air Force Closely Spaced Based (CSB) MX deployment, Defense Against Ballistic Missile Technologies, applications of Navy and Air Force weapons systems in US nuclear war planning, and Navy requirements for reentry systems, penetration aids, targeting and SLBM operational concepts. Responsibilities included monitoring developments in arms control negotiations, Soviet and U.S. ballistic missile defense systems, strategic anti-submarine warfare, strategic command, control and communications, and advanced sensor technologies. Duties also involved participation and/or reviews of activities within The Joint Chiefs of Staff, The Strategic Systems Projects Office, The Defense Nuclear Agency, and The Strategic Submarine Division (in the Office of the Chief of Naval Operations).

1980-1982 — Analyst
Congress of the United States
International Security and Commerce Program
Office of Technology Assessment
Washington, D.C. 20510

Performed technical and policy studies related to the problems of MX Missile basing. Areas of technical study included strategic communications, missile performance characteristics, weapons

effects, and performance evaluations of land-based and submarine ballistic missile guidance. Special responsibilities included studying problems of sea basing. This included detailed evaluations of operations and technology that are relevant to strategic anti-submarine capabilities; satellite and airborne surveillance techniques; and surface ship and submarine force management. Responsibilities included public and classified testimony to Committees of U.S. House and Senate, discussions with members of Congress and their staffs, and the development of technical liaisons with Government and private organizations who could provide data for input to studies. Critical data was collected from defense contractors, research laboratories, and military organizations, including Lockheed Space and Missile Systems, Lawrence Livermore Laboratory, Naval Underwater Systems Laboratories at Newport and New London, Strategic Air Command (USAF), Strategic Systems Planning Office (USN), Naval Intelligence Support Center, Central Intelligence Agency and various other groups within the Pentagon. Wrote chapters on Small Submarine Basing of MX, Surface Ship Basing of MX and co-authored chapter on Strategic Command and Control (with Ashton Carter) in unclassified OTA report *MX Missile Basing*. In addition, wrote a classified book titled *Strategic Anti-Submarine Warfare* (SECRET NOFORN) as a technical annex to MX Missile Basing.

1978-1980	Assistant Physicist, Solid State Science Division
1975-1978	Postdoctoral Appointee, Solid State Science Division Argonne National Laboratory, Argonne, Illinois

Was responsible for the development and management of research programs on dynamics of atoms in liquids. Responsibilities included designing and building equipment for thermal neutron scattering experiments, supervision of graduate and undergraduate students and technicians. Additional responsibilities included publishing results of research in scientific journals, writing internal status reports, and presenting results of research in talks at other scientific institutions. Published one book and numerous scientific and general interest articles.

EDUCATION

Ph.D., 1975	Massachusetts Institute of Technology Cambridge, Massachusetts
S.M., 1971	Massachusetts Institute of Technology Cambridge, Massachusetts
S.B., 1967	Massachusetts Institute of Technology Cambridge, Massachusetts

PROFESSIONAL

2003 Joe A. Callaway Award for Civic Courage
2001 Norbert Wiener Prize from Computer Professionals for Social Responsibility
1995 Hilliard Roderick Prize of the American Association for the Advancement of Science
Member of the Science and Technology Advisory Group,
Office of Intelligence and National Security, U.S. Department of Energy
1993 to 1995
1990 Leo Szilard Award of the American Physical Society
Carnegie Foundation Science Fellowship 1984-1985
Elected to Sigma-Xi 1973


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MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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Welcome to the MIT Security Studies Program

The Security Studies Program at MIT is a graduate-level research and educational program based at the Center For International Studies at MIT. The Program's teaching ties are primarily, though not exclusively, with MIT's Political Science Department, and courses offered emphasize grand strategy, technology, arms control, and bureaucratic politics issues. The SSP faculty includes natural scientists and engineers as well as social scientists. A special feature of the program is the integration of technical and political analyses in studies of international security problems. Faculty members advise or comment frequently on current policy problems, but the Program's prime task is educating those who will be the next generation of scholars and practitioners in international security policy making. The Program's research and public service activities necessarily complement that effort. SSP supports the research work of graduate students, faculty and fellows, and sponsors seminars and conferences to bring the results of this work to the attention of academic and policy audiences.

Contact SSP

Questions, comments, or suggestions regarding this web page should go to llevine@mit.edu.

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The Security Studies Program

Technical Working Group

The MIT Security Studies Program Technical Working Group (TWG) is one of the largest and most effective groups of independent academic technical analysts of arms control and international security issues. Areas of research include ballistic missile defenses, nuclear weapons and their effects, ballistic missiles and the proliferation of weapons of mass destruction (WMD), and nuclear fuel cycle issues. In addition, TWG is rapidly expanding its activities into areas such as space weaponization, the technical aspects of homeland security, as well as tactical and technical measures for dealing with the threats pose by domestic and international terrorism.

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Research Members

Geoffrey Forden
Lisbeth Gronlund
George Lewis
Allison Macfarlane
Marvin Miller
Theodore Postol
Jorn Siljeholm
David Wright

GEOFFREY FORDEN

Geoffrey Forden joined the Security Studies Program in June 2000 as a Research Associate. Dr. Forden spent a year on leave from MIT serving as the first Chief of Multidiscipline Analysis Section for UNMOVIC, the United Nations Monitoring, Verification, and Inspection Commission-the agency responsible for verifying and monitoring the dismantlement of Iraq's weapons of mass destruction. Previously, he was a strategic weapons analyst in the National Security Division of the Congressional Budget Office. Before joining CBO in August 1997, he spent a year as a Science Fellow at Stanford's Center for International Security and Arms Control. During the year at Stanford he performed the first unclassified, independent, technical analysis of the Airborne Laser. Geoff is a physicist by training with degrees from Case Western Reserve University and Indiana University. After getting his Ph.D. in physics, he spent three years in Germany working for England's Rutherford Laboratory. Returning to the US, he first spent three years working at Fermi National Laboratory and then seven years as an Assistant Professor of Physics at the University of Arizona. His current research includes the analysis of Russian and Chinese space systems as well as trying to understand how proliferators acquire the know-how and industrial infrastructure to produce weapons of mass destruction. Dr. Forden can be reached at 617.452.4097 or by email at forden@mit.edu.

LISBETH GRONLUND

Lisbeth Gronlund is a Senior Scientist and Co-director of the Global Security Program at the Union of Concerned Scientists in Cambridge, Massachusetts and a Research Scientist in the Massachusetts Institute of Technology (MIT) Security Studies Program. She holds a Ph.D. in physics from Cornell University.
Her recent research has focused on technical issues related to ballistic missile defenses. Other areas of research include new nuclear weapons, nuclear arms control, and international fissile material controls. She has published widely in

journals including Foreign Policy, Nature, Science and Global Security, Survival, Technology Review, the Bulletin of the Atomic Scientists, Arms Control Today, and Physics Today. Along with ten other physicists and engineers, she is a co-author of the April 2000 study "Countermeasures: A Technical Analysis of the Operational Effectiveness of the Planned US National Missile Defense System." She has given numerous talks about arms control and missile defense policy issues to both lay and expert audiences and has testified to Congress.
Dr. Gronlund is a Fellow of the American Physical Society (APS), which is the professional association of 42,000 physicists. She is the co-recipient of the 2001 Joseph A. Burton Forum Award of the APS "for creative and sustained leadership in building an international arms-control-physics community and for her excellence in arms control physics." She has served on the APS Panel on Public Affairs and on the board of directors of the Educational Foundation for Nuclear Science, which publishes the Bulletin of the Atomic Scientists; she is an associate editor of Science and Global Security.
Previously, Dr. Gronlund was an SSRC-MacArthur Foundation Fellow in International Peace and Security at the Center for International Security Studies at the University of Maryland and a postdoctoral fellow at the MIT Defense and Arms Control Studies Program. Dr. Gronlund may be emailed at lgronlund@ucsusa.org.

GEORGE N. LEWIS

George N. Lewis spent five years as a research associate in Cornell University's Department of Applied Physics after receiving his PhD in experimental solid state physics from Cornell's Physics Department in 1983. Prior to coming to MIT in 1989 he was a fellow in the Peace Studies Program at Cornell and at the Center for International Security and Arms Control at Stanford. His research has included studies of arms control and verification for sea-launched cruise missiles and other non-strategic nuclear weapons, air surveillance and early warning systems, and the effectiveness of tactical missiles and of defenses against such missiles and the performance of Patriot in the 1991 Gulf War. Dr. Lewis is now conducting research on a number of issues relevant to ballistic missile defense and deep reductions in nuclear weapons. He can be reached at 617.253.3846 or by email at gnlewis@mit.edu.

ALLISON MACFARLANE

Allison Macfarlane is a Senior Research Associate at MIT's Security Studies Program. She received her PhD in geology from the Massachusetts Institute of Technology in 1992. She has held the position of professor of geology and women's studies at George Mason University where she taught a wide variety of geology and environmental courses. In 1996-97 she held a Bunting Science Fellowship at Radcliffe College and a Kennedy School Fellowship at Harvard University where she worked with the Science Technology and Public Policy

group at the Center for Science and International Affairs. From 1997-98 she was a science fellow at the Center for International Security and Arms Control at Stanford University. From 1998-2000 she was a Social Science Research Council-MacArthur Foundation fellow in International Peace and Security at the Belfer Center for Science and International Affairs at Harvard University. She has also served on a National Academy of Sciences panel on the spent fuel standard and excess weapons plutonium disposition. Her research focuses on the issues surrounding the management and disposal of high-level nuclear waste and fissile materials. Dr. Macfarlane may be emailed at

MARVIN MILLER

Marvin Miller retired from the position of Senior Research Scientist in the MIT Department of Nuclear Engineering in 1996. He is now a Research Affiliate at both the MIT Center for International Studies, where he is a member of the Security Studies Program, and the Nuclear Engineering Department. Trained as a physicist, he was a tenured Associate Professor of Electrical Engineering at Purdue University conducting research on laser theory and applications before joining MIT in 1976. At MIT his principal activities have been in the areas of nuclear arms control and the environmental impacts of energy use. In arms control, his major regional interests are the Middle East and South Asia. He has also worked on such issues as: international safeguards and export controls on sensitive nuclear technologies; a cutoff in the production of fissile material for nuclear weapons; the disposition of plutonium from retired nuclear weapons in the US and Russia; the proliferation implications of the education and training of foreign nationals at US universities; nuclear power and proliferation; and the ethical and strategic implications of nuclear deterrence of biological and chemical weapons attacks. From 1984-86, Dr. Miller was on leave from MIT with the Nuclear Weapons and Control Bureau of the US Arms Control & Disarmament Agency (ACDA). After returning to MIT, he served as a consultant to ACDA, and continues in that capacity with the State Department. He has also been a consultant for the International Atomic Energy Agency, the US Department of Energy, and the Argonne, Brookhaven, Oak Ridge, Los Alamos and Livermore National Laboratories; was a Visiting Associate Professor of Physics at Tel-Aviv University in Israel and a Scholar in Residence at the Rockefeller Foundation Study and Conference Center in Bellagio, Italy; and is the author of more than 80 publications in the fields of laser theory and applications, energy, and arms control. Dr. Miller may be reached at marvmill@mit.edu.

THEODORE POSTOL

Theodore Postol is Professor of Science, Technology and National Security Policy in the Program in Science, Technology, and Society at MIT. He did his undergraduate work in physics and his graduate work in nuclear engineering at the Massachusetts Institute of Technology. After receiving his Ph.D., Dr. Postol

joined the staff of Argonne National Laboratory, where he studied the microscopic dynamics and structure of liquids and disordered solids using neutron, x-ray and light scattering, along with computer molecular dynamics techniques. Subsequently he went to the Congressional Office of Technology Assessment to study methods of basing the MX Missile, and later worked as a scientific adviser to the Chief of Naval Operations. After leaving the Pentagon, Dr. Postol helped to build a program at Stanford University to train mid-career scientists to study developments in weapons technology of relevance to defense and arms control policy. In 1990 Dr. Postol was awarded the Leo Szilard Prize from the American Physical Society. In 1995 he received the Hilliard Roderick Prize from the American Association for the Advancement of Science and in 2001 he received the Norbert Wiener Award from Computer Professionals for Social Responsibility for uncovering numerous and important false claims about missile defenses. Dr. Postol can be reached at 617.253.8077 or by email at postol@mit.edu.

JORN SILJEHOLM

Jorn Siljeholm, Ph.D. in environmental chemistry, risk analysis and toxicology (University of Oslo, 1998) is affiliated with the Security Studies Program at CIS. He served as a weapons inspector in Iraq with the United Nations (UNMOVIC) from 2002-2003. Affiliated with CIS since 1994, he spent the four previous years at MIT's Center for Technology, Policy and Industrial Development, and was primary initiator and fundraiser for the MIT Chlorine Project begun in 1991. He served as environmental chemist and environmental advisor for Esso Norway refineries, advisor to CONCAWE, the European oil companies' joint research organization, and Executive Vice President for Communications at Norway's largest finance company, Storebrand. He was executive director of Naturevernforbundet, the Norwegian Society for the Conservation of Nature, and chaired the Norwegian Research Organization for Pharmacology and Toxicology. Leading up to the 1992 UN Conference on Environment and Development, he authored the statement of non-governmental organizations. Dr. Siljeholm may be reached at 781.258.7411 or at jornsi@mit.edu.

DAVID WRIGHT

David Wright is Co-Director and Senior Scientist in the Global Security Program at the Union of Concerned Scientists (UCS) in Cambridge, MA, and a Research Scientist in the Security Studies Program at the Massachusetts Institute of Technology (MIT). He received his PhD in theoretical condensed matter physics from Cornell University in 1983, and worked as a research physicist for five years before beginning to work full-time on security issues. Prior to his current job, he held positions in the Center for Science and International Affairs in the Kennedy School of Government at Harvard (1988-90), and at the Federation of American Scientists (1990-2).

In recent years his primary focus has been on technical issues of ballistic missile defense, missile proliferation, and space security. He was an author of the April 2000 UCS-MIT study Countermeasures, and has done extensive analysis of the missile defense testing program and the North Korean ballistic missile program. A second major focus of his work has been helping to increase the number of technical analysts worldwide who work on security issues, and since 1990 he has been a co-organizer (with Lisbeth Gronlund and George Lewis) of the International Summer Symposiums on Science and World Affairs. For this work and his technical analysis, he was awarded the American Physical Society's Joseph A. Burton Forum Award in 2001. He also developed and oversees a fellowship program funded by the Ford Foundation that brings Chinese scientists to the United States to work with US researchers on security issues, both on twelve-month and shorter fellowships.

Program in Science, Technology, and Society

Attention faculty! You can customize this page. Click here for more information

Theodore Postol

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Professor Postol was educated at MIT (S.B., Physics, 1967; Ph.D., Nuclear Engineering and Physics, 1975) and joined the MIT faculty in 1989. His work covers a broad range of topics in international security policy, including studies of missile basing modes, nuclear attack, missile-bearing submarines, missile defense and early warning systems and the consequences of secrecy in military research. His current work focuses on the relationship between changing military technologies and the altered international security situation.

Dr. Postol received the American Physical Society's Leo Szilard Award in 1990 for "incisive technical analysis of national security issues that [have] been vital for informing the public policy debate." He is also the recipient of the 1995 Hilliard Roderick Prize in Science, Arms Control, and International Security from the American Association for the Advancement of Science (AAAS) for "outstanding contributions that advance our understanding of issues related to arms control and international security...that have important scientific or technical dimensions."

In 2001, he won the Norbert Wiener Prize from Computer Professionals for Social Responsibility for his work exposing false claims about the performance of the Patriot missile defense in the Gulf War of 1991 and for later work exposing hidden problems with the currently under development National Missile Defense System.

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2003-2004 Calendar

Oct: Rahul Mahajan
Nov: Gerard Ungerman
Feb: Alain Dubos
Feb: Ka Hsaw Wa
Apr: Rep. Bernie Sanders
May: Mike Farrell

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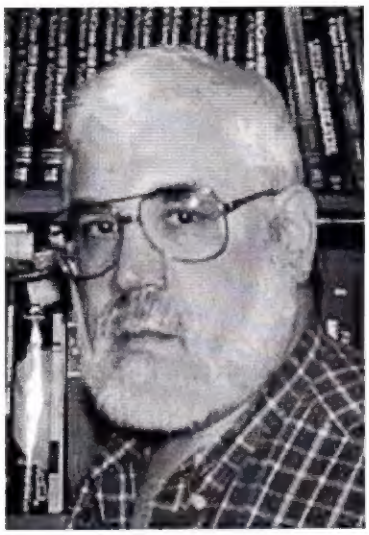

Science and Technology Issues in the National Missile Defense Program

Theodore A. Postol

Wednesday April 2, 2003
8:00 pm, Ramo Auditorium, Caltech

This event is free and open to the public;
no tickets or reservations are required.

Streaming Video of Kenote Address

Keynote speaker Dr. Theodore Postol's reveals critical flaws and failures in the National Missile Defense Program that he contends have been censored and concealed by the Department of Defense. Streaming videos are courtesy of @Caltech Streaming Theater (Realplayer required):

[broadband] [cable/DSL] [56k modem]

- Articles related to Postol's work [Postol_material.pdf, 756 KB]

Theodore Postol

MIT Professor of Science, Technology and National Security Policy, Theodore Postol is a leading expert and critic of the National Missile Defense Program, a system

Published on Thursday, May 11, 2000 in the Boston Globe

Missile Defense System Won't Work

by David Wright and Theodore Postol

The United States is on the verge of deploying a national missile defense system intended to shoot down long-range missiles. The Clinton administration is scheduled to decide this fall whether to give the green light to a system that is expected to cost more than $60 billion, sour relations with Russia and China, and block deep cuts in nuclear arsenals.

But the real scandal is that the defense being developed won't work - and few in Washington seem to know or care.

The chief difficulty in trying to develop missile defenses is not getting vast systems of complex hardware to work as intended - although that is a daunting task. The key problem is that the defense has to work against an enemy who is trying to foil the system. what's worse, the attacker can do so with technology much simpler than the technology needed for the defense system. This inherent asymmetry means the attacker has the advantage despite the technological edge the United States has over a potential attacker such as North Korea.

We recently completed, along with nine other scientists, a yearlong study that examined in detail what countermeasures an emerging missile state could take to defeat the missile defense system the United States is planning. That study shows that effective countermeasures require technology much less sophisticated than is needed to build a long-range missile in the first place - technology that would be available to the potential attacker. This kind of analysis is possible since the United States has already selected the interceptor and sensor technologies its defense system would use. We assessed the full missile defense system the United States is planning - not just the first phase planned for 2005 - and assumed only that it is constrained by the laws of physics.

We examined three countermeasures in detail, each of which would defeat the planned US defense.

A country that decided to deliver biological weapons by ballistic missile could divide the lethal agent into 100 or more small bombs, known as "bomblets,"

WHY MISSILE DEFENSE WON'T WORK

by Theodore A. Postol

In this April 2002 article from *Technology Review*, MIT professor Theodore Postol analyzes U.S. missile defense tests and reveals the basic flaws that went unreported -- and how a primitive adversary can defeat the system with the simplest of technologies.

Theodore A. Postol is professor of science, technology, and national security policy at MIT.

On June 23, 1997, a prototype of a U.S. military "kill vehicle" designed to intercept nuclear missiles lifted off from a launch pad on the South Pacific atoll of Kwajalein. Its purpose was not to seek out and destroy. Instead, it was to fly by and observe a group of objects that had been launched into space more than 20 minutes earlier from Vandenberg Air Force Base near Santa Barbara, GA, almost 8,000 kilometers away-and determine whether it was possible to distinguish a cloud of decoys from the mock warhead they protected.

It was a big day for nuclear missile defense. Since the decoys used in this experiment were of very simple design, if the experiment showed that the warhead could not be reliably identified, it could mean the whole Star Wars defense plan would for all practical purposes be unworkable, since the most primitive of adversaries could defeat it with the simplest of decoys. Of even greater importance, it would also be a clear demonstration of the fundamental physical reasons why any missile defense that relied on kill vehicles of this type could never be successful.

It worked -- at least that's what we were told. But shortly after the experiment flew, three courageous people -- a former employee of defense contractor TRW turned whistle-blower, a TRW retiree and a U.S. Department of Defense investigator -- brought new evidence to light. Their information, coupled with my own investigation and repeated calls for a full accounting from U.S. representatives Howard Berman and Edward Markey, pointed to a different story -- one of failure, a finding seemingly confirmed this February by a draft of a Government Accounting Office follow on study, as reported by the journal Science. I believe that the top management of the Pentagon's Missile Defense